

	Middle Years Programme	Form F3.1
	Moderation coversheet: Subjects	

Please complete a copy of this form for **each** folder of work submitted for moderation.

Please ensure that the material being submitted for moderation conforms to the requirements set out in the relevant subject group guide. All the criteria **must be applied twice** within the folder accompanying this form, unless stated otherwise in the subject guide.

School name: Victoria Shanghai Academy School code: _____

Student's name/number: Jonathan POON Subject: Maths (Extended)

The student's work is (please mark box):

☐ comparatively good
 ☒ average
 ☐ comparatively weak

Nature and title of assessment task		Criteria					
		A	B	C	D	E	F
1. Bench Design (Investigation)	Teacher	4			2		
	Moderator						
2. Patterns in Probability (timed assessment task)	Teacher		2	3			
	Moderator						
3. A Special Matrix (timed assessment task)	Teacher		4		3		
	Moderator						
4. Broad-Based Test	Teacher	2		2			
	Moderator						

Please use the reverse of this form or separate sheets to identify the conditions under which each piece of work was done (project, classroom test, end-of-term examination, and so on), the amount of support provided, any special circumstances, and general/specific information on the student. Provide any information that may assist the moderators in determining how the criteria were applied.

Name of teacher: D Slosberg

Signature of teacher: _____ Date: 26th March 2012

Names of teachers involved in internal standardization for this subject:

Frank Davis, Daniel Slosberg, Echo Li

Teacher's comments:

Task & Criterion	Grade	General Remarks	Why this grade
Bench A	4	Equations start on page 9. His first equation is very simple and poorly explained. He also neglects to write down the final equation. The second equation is in calculator notation. It is a quadratic, but the x brackets don't match showing he hasn't done a horizontal translation. He does correctly describe the reflection. The cubic once again shows a reflection properly and then does not explain the final answers. The footnote references Google when it should be Geogebra. The circle finally describes translations, but the left and right are backwards.	Jonathan has 2 simple, 1 complex, and 1 unfamiliar function. Unfortunately, he is unsuccessful in describing how he has obtained the majority of those functions. He does describe reflection correctly on the quadratic and cubic and he describes translation incorrectly on the circle. We felt Jonathan earned a level 4 for being able to manipulate 3 functions of a more complex nature in a way that was partially explained. To reach the 5-6 band, Jonathan would have had to explain more of his transformations correctly.
Bench D	2	Page 4 gives real life background on benches (without sources). Page 6 has a data table of students he's measured. He looks at average lengths without considering you might want the maximum upper leg length because it's easy to bend a knee that sticks out too far, but impossible to bend one that's too close. No reflection between 11 and 12.	He does describe the importance in real life on pages 4, 6 and 7. This earns him a level 2. There is no mention of degree of accuracy at all, so it can't be a 4. Jonathan takes an average without really analyzing whether that makes sense in detail, so a 3 is precluded.
Prob B	2	1 is wrong and I can't follow what he's trying to do in 2. In 3 & 4 he's making logical deductions but arriving at an apparently random answer. In 5 he has found a pattern with arguably incorrect math (he's found the possibility of winning in x point if he wins the first point--not sure why he thinks he has to win the first point).	Jonathan has found a pattern in question 5. It is a simple pattern. This is why he earned a level 2. He does not state his pattern as a general rule such as "if I win the first game and win the match I must play an even number of games" so he has not moved into the 3-4 band.
Prob C	3	In 1, it is not logical that the probability is $\frac{1}{2}$ since they aren't equal. The notation on the first line is incorrect. Unclear what he's doing in 2 although the notation is improved. The table in 5 is helpful in understanding his thinking.	Some parts are clear (5), some parts are illogical (1), some parts are difficult to follow (2). He uses different forms of representation such as tables (5), and equations (2) with some success (in communicating if not in getting the right answers. We feel it's in the 3-4 band, but there are too many errors in notation and too many places where Jonathan's thinking is unclear to award a 4, but it was not so difficult to follow that we felt a 2 was justified. Therefore we awarded a 3.

Task & Criterion	Grade	General Remarks	Why this grade
Matrix B	4	Jonathan starts out doing the math OK, but it's clear he doesn't understand what "of the form" means in f. He is also uncomfortable using variables in d and plugs in numbers instead. Jonathan finally comes up with an original pattern in n which is correct, but not really stated as a general rule. In part 2e, he does come up with a general rule ("Once the power of M is even, the answer is T, on the other hand if the power is odd, the answer is MT.") and goes on to use the rule to draw conclusions consistent with his findings.	We felt this was a tricky grade to assign. While Jonathan has not clearly stated either of the two general rules available to him in part 1 (in part because he is uncomfortable working directly with variables), he has done so in 2e and he uses it successfully. At the end, we felt this was enough to award a level 4 in light of the further progress he made towards using the rule in 2g. We did not award a level 5 however because neither pattern in part 1 was written as a general rule (although it was in 2e) and the patterns in j and n haven't been connected (conclusions consistent with findings haven't been drawn in part 1 although they were in 2g). We felt this was a difficult judgment call to make.
Matrix D	3	In b, Jonathan identifies the real world impact, although in c we find the incorrect transformation. In d Jonathan correctly notices the square of M changes nothing and in e that the cube reverts to the original. He does cite two methods in g along with a reason his selected method was chosen (faster) no support is given for its greater reliability.	While Jonathan describes the connection to real life in b and sees the importance of his findings in d and e, he never explains whether his results make sense. He is therefore in the 3-4 band but hasn't filled the whole box. That is why this is a 3 but not a 4.

Task & Criterion	Grade	General Remarks	Why this grade
Test A	2	Jonathan successfully answered 1a, 1b, and 1c was off by just a sign. 3a was right as well although 3b and 3c do not show understanding. 4a is right with working while 4b appears to be a guess. 5a is off by the translation in the y-direction, while the rest of the problem follows through correctly (though 5b is much simpler as a result). 6a does not show understanding though 6b and 6c are correct (but with no reason given for 6b). 7 seems to be right by accident. 10a has one of two correct answers, with no method given.	<p>Jonathan is generally getting many of the simplest parts of various problems correct. His lack of workings unfortunately makes it quite difficult to say how he was deducing these correct answers.</p> <p>A level 2 was awarded because of his generally correct answers to the simplest parts of the familiar problems.</p> <p>A level 3 was not awarded because he was not generally getting more complex problems correct. Specifically, in question 5 he has solved a simpler version of the problem and in question 6 while he has solved the quadratic and plugged in his answers, he does not show evidence of having deduced the equation from the more-complex story problem form or for having reasons for rejecting an answer of 1.</p>
Test C	2	<p>Notation in 2 was clearly not understood. Arrows were not shown on vectors \mathbf{a} or \mathbf{c} (this was forgiven in standardization as the vectors were shown in bold in the question). Erik's time lacks units and no reasons were given for rejecting $x=1$. 7 has a very strange equation setting up the problem. In 8 Jonathan divides by a matrix.</p> <p>Notation in 1 is used correctly. In 9 Jonathan shows an understanding of index laws and notation.</p>	<p>Jonathan earned a 2 as he has a grasp of basic forms of representation as demonstrated in 1 and 9 and has minor, understandable errors in 3 and 6. His reasoning, however is often absent and, where present, can be difficult to follow (see 7).</p> <p>Jonathan did not earn a level 3 because his lines of reasoning are not clear and he makes errors moving between forms of representation (see 5a and 6a). Dividing by a matrix is further evidence that he does not have sufficient command of the mathematical language to attempt the problems in question.</p>